Amendments to the Specification:

On page 1 before paragraph [0001] insert the following heading:

Background of the Invention

Please replace paragraph [0003] with the following amended paragraph:

[0003] Semi-transparent or transparent glass and/or glass- ceramics, for the setting-in of certain material properties, for example ceramization, are heated mostly to temperatures which lie preferably over the lower cooling point (viscosity $Z = 10^{14.5}$ dPas). In form-giving processes, especially hot after-processing ~~(Heissnachverarbeitung)~~, the semi-transparent or transparent glass and/or the glass-ceramic material is heated up to the processing point (viscosity $Z = 10^4$ dPas) or beyond that. Typical lower cooling points can amount, depending on the type of glass, to between 282^0C and 790^0C, and typically the processing point can be up to 1705^0C.

Please replace paragraph [0006] with the following amended paragraph:

[0006] Since most glasses in this wavelength range have an absorption edge ~~(Absorptionskante)~~, 50% or more of the radiation output is absorbed by the surface or in surface-near layers. It is possible, therefore, to speak of surface heating. Another possibility lies in heating glass and glass-ceramics with a gas flame, in which typical flame temperatures lie at 1000^0C. Such a heating occurs mainly by direct transfer of the thermal energy of the hot gas onto the surface of the glass or of the glass-ceramic, so that here it is possible to proceed from a predominantly surface / superficial / heating.

Please replace paragraph [0009] with the following amended paragraph:

[0009] A further disadvantage of known systems is that, in order to achieve a homogeneous heating-up of the surface, the surface of the glass or of the glass-ceramic material must be covered as completely as possible with heating elements. Limits are placed there on conventional heating processes. With electrical heating resistances made of Kanthal wire ~~(Kanthaldrähen)~~, as they are preferably used, at 1000^0C, for example, only a wall load of maximally 60 kW/m^2 is possible, while a full-surfaced (or holohedral) black radiator of the same temperature could irradiate an output density of 149 kW/m^2.

Please replace paragraph [0010] with the following amended paragraph:

[0010] With a denser packing of the heating elements to be equated with a higher wall load, these would heat themselves up reciprocally, which through the resulting heat accumulation ~~(Wärmestau)~~ would involve an extreme shortening of the useful life of the heating elements.

Please replace paragraph [0011] with the following amended paragraph:

[0011] When a homogeneous heating-up of the glass or of the glass-ceramic is not achieved or is only inadequately successful, then this unfailingly results in inhomogeneities in the process and/or in the product quality. For example, any irregularity in the process conducting, in the ceramization process of glass-ceramics leads to a cambering ~~(Durchbiegen)~~ or bursting of the glass-ceramic article.

Please replace paragraph [0013] with the following amended paragraph:

[0013] A heating of transparent glass homogeneous in depth with use of short-wave IR radiators is described in US-A-3620706. The process according to US-A-3620706 is based on the principle that the absorption length of the radiation used in glass is very much greater than the dimensions of the glass object to be heated, so that the major part of the impinging radiation is [[lest]] <u>let</u> through by the glass and the absorbed energy per volume is nearly equal at every point of the glass body. What is disadvantageous in this process, however, is that no homogeneous irradiation over the surface of the glass objects is ensured, so that the intensity distribution of the IR radiation source is depicted on the glass to be heated. Moreover, in this process only a small part of the electric energy used is utilized for the heating of the glass.

Before paragraph [0015] insert the following heading:

<u>Summary of the Invention</u>

Please replace paragraph [0015] with the following amended paragraph:

[0015] According to the invention the problem is solved by the means that in a generic process the heating of the semi-transparent and/or transparent glass or glass-ceramic material is achieved by a ~~component~~ <u>proportion</u> of infrared radiation acting directly on the glass and/or glass-ceramic material as well as a ~~component~~ <u>proportion</u> of infrared radiation acting

indirectly on the glass and/or glass-ceramic ~~material,the~~ material, the share of the radiation acting indirectly on the glass or the glass-ceramic material being more than 50%, preferably more than 60%, preferably more than 70%, especially preferably more than 80%, especially preferably more than 90%, in particular more than 98% of the total radiation output.

Please replace paragraph [0017] with the following amended paragraph:

[0017] In a first form of execution of the invention it is provided that the infrared radiation acting indirectly on the glass and/or glass-ceramic material comprises at least a component (proportion) of reflected and/or scattered, especially diffusely scattered, radiation. Advantageously the component of the short-wave infrared radiation that is not absorbed by the glass or glass-ceramic material in the one-time impinging, i.e., reflected, scattered or let through, is on the average more than 50% of the total radiation output given off by the IR radiators.

Please replace paragraph [0018] with the following amended paragraph:

(0018) If, for example, it is desired to cool slowly or heat rapidly, then in an advantageous execution of the invention it is provided that the process is carried out in an enclosed space, preferably an IR radiation hollow space. In an especially advantageous execution of such a process it is provided that the reflected and/or scattered infrared radiation is reflected and/or scattered by at least a part of the wall, base and/or cover surfaces. IR radiation hollow spaces are shown for example in US-A-4789771 as well as EP-A-O 133 847, the disclosure content of which is fully taken into account in the present application. Preferably the component (proportion) of the infrared radiation reflected and/or scattered from the part of the wall, base and/or cover surfaces amounts to more than 50% of the radiation impinging on these surfaces.

Please replace paragraph [0021] with the following amended paragraph:

[0021] In an alternative development of the invention it is provided that the infrared radiation acting indirectly on the glass and/or glass-ceramic materials comprises a component of infrared radiation which is absorbed by a carrier or support body, transformed into heat and is given off onto the glass and/or the glass-ceramic material thermally bound with the carrier body.

Before paragraph [0036] insert the following heading:

Brief Description of the Drawings

Please replace paragraph [0036] with the following amended paragraph:

[0036] The invention is to be described in the following by way of example with the aid of the ~~figures~~ drawings as well as of the examples of execution.

Before paragraph [0038] insert the following heading:

Detailed Description

Please replace paragraph [0041] with the following amended paragraph:

[0041] In a first form of execution of the invention only the annealing material ~~(Glühgut)~~ is heated, while the environment remains cold.

Please replace paragraph [0042] with the following amended paragraph:

[0042] The radiation passing by the annealing material is led by reflectors or diffusing scatterers or diffusing backscatterers ~~(Rückstreuer)~~ onto the annealing material. In the case of high output densities and preferably of metal reflectors, the reflectors are water-cooled, since otherwise the reflector material would tarnish. This hazard is present especially with aluminum, which, because of its good reflecting properties in the IR range, is gladly used for radiators, especially for those of great radiation output. Alternatively to metal reflectors there can be used diffusely backscattering ceramic diffusors or partially reflecting and partially backscattering glazed reflectors, especially $A1_2O_2$.

Please replace paragraph [0044] with the following amended paragraph:

[0044] The advantage of such a construction is, however, the easy accessibility of the annealing material, for example for grippers ~~(Greifer)~~ which is of great interest especially in hot shaping ~~(Heissformgebung)~~.

Please replace paragraph [0053] with the following amended paragraph:

(0053) Since the absorption length of the used short wave IR radiation in the glass or in the glass-ceramic material is very much greater than the dimensions of the objects to be heated, the major part of the impinging radiation is allowed to pass through the sample. Since, on the other hand, the absorbed energy per volume at very point of the glass or glass-ceramic body is nearly equal, there is achieved a homogeneous heating over the entire volume. In the process according to Fig. 4 the IR radiators and the glass material to be heated are located in a hollow space, the walls and/or cover and/or base of which consist of a material with a surface of high reflectivity or high backscattering capacity, in which at least a part of the wall, base, and/or cover surface scatters back the impinging radiation predominantly diffusely. Thereby the predominant part of the radiation is let through again into the object to be heated and is again partially absorbed. The path of the radiation lest through the glass or the glass-ceramic material also in the second passage is analogously continued. With this process thee is achieved not only a heating homogenous in depth, but also the energy expended is clearly better utilized than in the case of only a single passage through the glass or the glass-ceramic material. It is especially preferred for the process described here that at least a part of the wall, base and/or cover surface does not reflect the impinging radiation ~~directedly (gerichtret)~~ directly, but is diffusely backscattered. Thereby the radiation passes from all directions and under all possible angles into the glass or the glass-ceramic material, so that the heating simultaneously occurs homogeneously over the surface and a depiction of the intensity distribution of the radiation source onto the objects to be heated as hitherto in the state of the art.

Please replace paragraph [0058] with the following amended paragraph:

[0058] The heating-up of the glass or of the glass-ceramic material now takes place by the orientation of the IR radiators over a thyristor controller ~~(Thyristorsteller)~~ by a combination of direct and indirect heating.

Please replace paragraph [0063] with the following amended paragraph:

[0063] With the invention there are given for the first time processes and devices for the heating or supporting or exclusive heating of glass or of glass-ceramic materials which ensure a homogeneous heating of the same, have a high energy utilization as well as avoiding a depicting of the radiation source on the object to be heated. The process and the device can

be used in a large number of areas of glass processing. Only by way of example and not exclusively so, let there be listed the following applications of the process of the invention:

- the temperature-homogeneous heating-up of glass-ceramic blanks in ceramization
- the rapid reheating of glass blanks for a following hot shaping
- the homogeneous heating of fiber bundles to drawing temperature
- the supporting and exclusive heating in mixture fusing
- the melting and purifying of glass and/or of glass-ceramic materials
- the supporting or exclusive heating in the shaping, especially in the drawing, in the rolling, in the casting, in the throwing ~~(Schleudern)~~, in the pressing, in the blowing in the blow-blow process, in the blowing in the press-blow ~~process,in~~ process, in the blowing in the ribbon process, for the flat-glass production as well as in the floating
- the supporting or exclusive heating in the cooling, in the melting, in the thermal solidifying, in the stabilizing or fine cooling for the setting-in of a desired fictitious temperature, of a desired index of refraction, of a desired compaction with subsequent temperature treatment, in the aging of thermometer glasses, in the demixing, in the dyeing of tarnished glasses, in controlled crystallizing, in diffusion treatment, especially chemical solidifying, in reshaping, especially lowering, bending, buckling ~~(Verziehen)~~, blowing, in the separating, especially in the melting-off, breaking, setting ~~(Schränken)~~, bursting, in the cutting, in the joining as well as in coating.